

Application No. 09/665,915
Amendment dated May 17, 2005
Reply to Office Action of February 18, 2005

Please amend the above-identified application as follows:

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A light shutter device comprising:
 - a light source which emits light of a plurality of colors, switching from one to another in order;
 - a plurality of light shutter elements made of a material with an electro-optical effect, said light shutter elements controlling in accordance with image data whether to transmit or not to transmit the light which has been emitted from the light source and is incident to the light shutter elements;
 - a first driver for driving a first electrode of selected ones of said plurality of light shutter elements to a first voltage responsive to said image data; and
 - a second driver for driving a second electrode common to said plurality of light shutter elements, said second driver altering a voltage on the second electrode in synchronization with switching of the colors of the light source;

wherein the first and second drivers operate to invert an electric field acting on the light shutter elements after every cycle of switching the colors of the light from the light source.
2. (Original) The light shutter device according to claim 1, wherein:
 - the light source comprises:
 - a lamp; and
 - a multiple color filter which is located between the lamp and the light shutter elements; and

by switching the multiple color filter in order, the light incident to the light shutter elements is switched between a plurality of colors in order.

3. (Cancelled)

4. (Currently Amended) A light shutter device comprising:

a light source which provides light of a color selected from a plurality of colors, and which switches from one color to another in a predetermined order;

a plurality of electro-optical light shutter elements, each selectively transmitting light incident thereon responsive to an electric field applied thereto; and

a driver for driving the light shutter elements, said driver altering a driving condition in synchronization with the switching of the colors of the light source;

wherein, the light shutter elements are driven by application of a voltage between a common electrode for all the light shutter elements and individual electrodes for the respective light shutter elements; [[and]]

the driving condition is altered by altering a potential of the common electrode to alter an electric field acting on the light shutter elements depending on the color of the light emitted from the light source; and

the driver operates to invert the electric field acting on the light shutter elements after every cycle of switching the colors of the light from the light source.

5. (Original) The light shutter device according to claim 4, wherein the colors of the light emitted from the light source are three primary colors of red, green and blue.

6. (Original) The light shutter device according to claim 5, wherein the individual electrodes are set to have a potential corresponding to a half-wave voltage of the light shutter elements for red light.

7. (Original) The light shutter device according to claim 5, wherein the individual electrodes are set to have a potential corresponding to a half-wave voltage of the light shutter elements for blue light.

8. (Original) The light shutter device according to claim 5, wherein the individual electrodes are set to have a potential corresponding to a half-wave voltage of the light shutter elements for green light.

9. – 10. (Cancelled)

11. (Currently Amended) The light shutter device according to claim 1 [[3]], wherein the second driver operates to superimpose [[driver superimposes]] a spike pulse voltage at a start of applying the driving voltage to the light shutter elements.

12. (Currently Amended) The light shutter device according to claim 4 [[9]], wherein the driver superimposes a spike pulse voltage at a start of applying [[the]] a driving voltage to the light shutter elements.

13. (Currently Amended) An array type writing device comprising:
a light source which emits light of a plurality of colors, switching from one to another in order;

a plurality of light shutter elements made of a material with an electro-optical effect, said light shutter elements controlling in accordance with image data whether to transmit or not to transmit the light which has been emitted from the light source and is incident to the light shutter elements; and

a driver for applying a voltage between a common electrode for all the light shutter elements and individual electrodes for the respective light shutter elements to drive the light shutter elements, said driver setting the individual electrodes to have potentials in accordance with image data and altering a driving condition of the common electrode in synchronization with switching of the colors of the light source and operating so as to invert an electric field acting on the light shutter elements after every cycle of switching the colors of the light source.

14. (Original) The array type writing device according to claim 13, wherein the individual electrodes are set to have a potential corresponding to a half-wave voltage for light of one of the colors emitted from the light source.

15. (Currently Amended) A method for driving a light shutter device, comprising the steps of:

making light of a first color from a light source, which is capable of emitting light of a plurality of colors, incident to a plurality of light shutter elements made of a material with an electro-optical effect;

in synchronization with the incidence of the light of the first color to the light shutter elements, setting individual electrodes for the respective light shutter elements to have potentials in accordance with image data by controlling a driver which drives the light shutter elements;

in synchronization with the incidence of the light of the first color to the light shutter elements, setting a common electrode for all the light shutter elements to have a first potential by controlling the driver;

after the incidence of the light of the first color to the light shutter elements, making light of a second color from the light source incident to the light shutter elements;

in synchronization with the incidence of the light of the second color to the light shutter elements, setting the individual electrodes to have potentials in accordance with image data by controlling the driver;

in synchronization with the incidence of the light of the second color to the light shutter elements, setting the common electrode to have a second potential which is different from the first potential by controlling the driver;

after the incidence of the light of the second color to the light shutter elements, making light of a third color from the light source incident to the light shutter elements;

in synchronization with the incidence of the light of the third color to the light shutter elements, setting the individual electrodes to have potentials in accordance with image data by controlling the driver; [[and]]

in synchronization with the incidence of the light of the third color to the light shutter elements, setting the common electrode to have a third potential which is different from the first potential and from the second potential by controlling the driver; and repeating the steps of setting potentials of said individual and common electrodes in synchronization with the incidents of light of said colors while controlling the driver so that an electric field acting on the light shutter elements has an opposite polarity.

16. (Original) The method according to claim 15, wherein the individual electrodes are set to have a potential corresponding to a half-wave voltage of the light shutter elements for light of one of the colors emitted from the light source.

17. (Original) The method according to claim 15, wherein the driver inverts an electric field acting on the light shutter elements at specified cycles.

18. (Original) The method according to claim 15, wherein the driver superimposes a spike pulse voltage at a start of setting the individual electrodes and the common electrode to have the respective potentials.